

**AMENDED CLAIMS:**

Please amend the claims as follows:

1. (twice amended) A method in a data processing system for displaying versions of source code, each version reflecting an instance in an edit history, the method comprising the steps of:

determining a language of the source code;

storing indications of the edits to the source code;

converting the source code with the indications of the edits from the language into a language-neutral representation;

using the language-neutral representation to display the source code in the language with the indications of all the source code edits; and

using the language-neutral representation to display a corresponding graphical representation of the source code with the indications of all the edits, showing visual differences of the source code through time,

wherein the graphical representation of the source code is not an alpha-numeric display and is not merely a text representation on a user interface.

2. (original) The method of claim 1, wherein the source code and the corresponding graphical representation of the source code are displayed sequentially.

3. (original) The method of claim 1, wherein a rate at which the source code with the indications of the edits is displayed is adjustable.

4. (original) The method of claim 1, wherein the source code with the indications of the edits is displayed in reverse order.

5. (previously amended)The method of claim 1, wherein the graphical representation is one of the group consisting of a use case diagram, a sequence diagram, a collaboration diagram, a state transition diagram, an activity diagram, a package diagram, a component diagram and a deployment diagram.

6. (twice amended)A method in a data processing system for displaying versions of source code, each version reflecting an instance in an edit history, the method comprising the steps of: --

storing indications of the edits to the source code; and

displaying the versions of the source code with the indications of the edits

wherein the source code is represented graphically on a user interface in a

language-neutral representation for showing differences in the source code

over time using graphical representations that are not merely alpha-

numeric or text-based display.

language-neutral representation.

7. (original) The method of claim 6, wherein the versions of the source code are displayed sequentially.

8. (original) The method of claim 6, wherein a rate at which the source code with the indications of the edits is displayed is adjustable.

9. (original) The method of claim 6, wherein the source code with the indications of the edits is displayed in reverse order.

10. (original) The method of claim 6, wherein the versions of the source code are displayed with a corresponding graphical representation for each version.

11. (twice amended) The method of claim 10, wherein the step of displaying the versions of source code comprises the steps of:

determining a language of the source code;

converting the source code with the indications of the edits from the language into  
a language-neutral representation that is not merely alpha-numeric or text-  
based display;

using the language-neutral representation to display the source code in the  
language with the indications of the edits; and

using the language-neutral representation to display the corresponding graphical  
representation of the source code with the indications of the edits, wherein  
the graphical representation of the source code is not merely a text  
representation on a user interface.

12. (original) The method of claim 10, wherein the graphical representation is one of the group consisting of a class diagram, a use case diagram, a sequence diagram, a collaboration diagram, a state transition diagram, an activity diagram, a package diagram, a component diagram and a deployment diagram.

13. (twice amended) A method in a data processing system for displaying versions of source code, the method comprising the steps of:

storing an edit to the source code;

displaying the source code and a graphical representation of the source code for  
showing differences in the source code over time using graphical

representations that are not merely alpha-numeric or text-based display;

and

displaying the source code with the edit and a graphical representation of the source code with the edit, wherein the graphical representation of the source code is not merely a text representation on a user interface.

14. (original) The method of claim 13, wherein the step of displaying the source code comprises the steps of:

determining a language of the source code;

converting the source code from the language into a language-neutral representation; and using the language-neutral representation to display the graphical representation of the source code.

15. (original) The method of claim 13, wherein the step of displaying the source code with the edit comprises the steps of:

converting the source code with the edit from the language into a language-neutral representation; and

using the language-neutral representation of the source code with the edit to display the graphical representation of the source code with the edit.

16. (original) The method of claim 13, wherein the source code is displayed after the source code with the edit is displayed.

17. (twice amended) A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having versions of source code, each version reflecting an instance in an edit history, the method comprising the steps of:

determining a language of the source code;

storing indications of the edits to the source code;

converting the source code with the indications of the edits from the language into  
a language-neutral representation that is not merely alpha-numeric or text-  
based display;

using the language-neutral representation to display the source code in the  
language with the indications of the edits; and

using the language-neutral representation to display a corresponding graphical  
representation of the source code with the indications of the edits; wherein  
the graphical representation of the source code is not merely a text  
representation on a user interface.

18. (original) The computer-readable medium of claim 17, wherein the source  
code and the corresponding graphical representation of the source code are displayed  
sequentially.

19. (original) The computer-readable medium of claim 17, wherein a rate at  
which the source code with the indications of the edits is displayed is adjustable.

20. (original) The computer-readable medium of claim 17, wherein the source  
code with the indications of the edits is displayed in reverse order.

21. (original) The computer-readable medium of claim 17, wherein the graphical  
representation is one of the group consisting of a class diagram, a use case  
diagram, a sequence diagram, a collaboration diagram, a state transition diagram, an  
activity diagram, a package diagram, a component diagram and a deployment diagram.

22. (twice amended) A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having versions of source code, each version reflecting an instance in an edit history, the method comprising the steps of:

storing indications of edits to the source code; and

displaying the versions of the source code with the indications of the edits in a graphical representation, which show differences in the source code over time using graphical representations that are not merely alpha-numeric or text-based display, wherein the graphical representation of the source code is not merely a text representation on a user interface.

23. (original) The computer-readable medium of claim 22, wherein the versions of the source code are displayed sequentially.

24. (original) The computer-readable medium of claim 22, wherein a rate at which the source code with the indications of the edits is displayed is adjustable.

25. (original) The computer-readable medium of claim 22, wherein the source code with the indications of the edits is displayed in reverse order.

26. (original) The computer-readable medium of claim 22, wherein the versions of the source code are displayed with a corresponding graphical representation for each version.

27. (original) The computer-readable medium of claim 26, wherein the step of displaying

the versions of source code comprises the steps of:

determining a language of the source code;

converting the source code with the indications of the edits from the language into a language-neutral representation;

using the language-neutral representation to display the source code in the language with the indications of the edits; and

using the language-neutral representation to display the corresponding graphical representation of the source code with the indications of the edits.

28. (original) The computer-readable medium of claim 26, wherein the graphical representation is one of the group consisting of a class diagram, a use case diagram, a sequence diagram, a collaboration diagram, a state transition diagram, an activity diagram, a package diagram, a component diagram and a deployment diagram.

29. (twice amended) A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having source code, the method comprising the steps of:

storing an edit to the source code;

displaying the source code and a graphical representation of the source code

showing differences in the source code over time using graphical representations that are not merely alpha-numeric or text-based display;

and

displaying the source code with the edit and a graphical representation of the source code with the edit; wherein the graphical representation of the source code is not merely a text representation on a user interface.

30. (original) The computer-readable medium of claim 29, wherein the step of displaying the source code comprises the steps of:

determining a language of the source code;

converting the source code from the language into a language-neutral representation; and

using the language-neutral representation to display the graphical representation of the source code.

31. (original) The computer-readable medium of claim 29, wherein the step of displaying the source code with the edit comprises the steps of:

converting the source code with the edit from the language into a language-neutral representation; and

using the language-neutral representation of the source code with the edit to display the graphical representation of the source code with the edit.

32. (original) The computer-readable medium of claim 29, wherein the source code is displayed after the source code with the edit is displayed.

33. (twice amended) A data processing system comprising:

a secondary storage including source code;

a memory device including:

a program that stores indications of edits to the source code into the memory device, and that displays the source code with the indications of the edits and a corresponding graphical representation showing differences in the source code over time using graphical representations that are not merely alpha-numeric or text-based display, wherein the graphical representation of the



source code is not merely a text representation on a user interface  
of the source code with the indications of the edits; and

a processor for running the program.

34. (original) The data processing system of claim 33, wherein the source code with the indications of the edits are displayed sequentially.

35. (original) The data processing system of claim 33, wherein a rate at which the source code with the indications of the edits is displayed is adjustable.

36. (original) The data processing system of claim 33, wherein the source code with the indications of the edits is displayed in reverse order.

37. (original) The data processing system of claim 33, wherein the program further

determines the language of the source code, converts the source code with the indications of the edits from the language into a language-neutral representation, uses the language-neutral representation to display the source code with the indications of the edits in the language, and uses the language-neutral representation to display the corresponding graphical representation of the source code with the indications of the edits.

38. (original) The data processing system of claim 37, wherein the memory device further comprises a transient meta model, wherein said transient meta model stores the languageneutral representation of the source code.

39. (original) The data processing system of claim 33, wherein the graphical representation

is one of the group consisting of a class diagram, a use case diagram, a sequence diagram, a collaboration diagram, a state transition diagram, an activity diagram, a package diagram, a component diagram and a deployment diagram.

a processor for running the program.

40. (twice amended) A system for displaying versions of source code, each version reflecting an instance in an edit history, the system comprising:

means for storing indications of the edits to the source code; and

means for displaying the versions of the source code with the indications of the edits in a graphical representation showing differences in the source code over time using graphical representations that are not merely alpha-numeric or text-based display, wherein the graphical representation of the source code is not merely a text representation on a user interface.

### ARGUMENTS

Rejection of Claims on Art Grounds in the 09/24/2003 Office Action, and Traversal  
Thercof

In the 09/24/2003 Office Action, claims 1-40 have been rejected on prior art grounds,  
under 35 U.S.C 102, as follows:

Claims 1-40 are rejected under 35 USC 102(b) as being anticipated by Per Cederqvist et  
al. (Version Management with CVS for CVS 1.11.3, 1992, 1993).

The applicant asserts that the claims 1-40, now amended, are patentably  
distinguishable over the prior art and in condition for allowance.

In particular, the examiner states that Per Cederqvist (PC) reference teaches the  
step of claim 1 including "using the language neutral representation to display source  
code in the language with an indication of the edits; and using the language-neutral  
representation to display corresponding graphical representation of the source code with  
indications of the edits."

Significantly, the PC reference merely shows indications of edits in a text-based  
format, which the applicant asserts is not a language-neutral display or a graphical  
representation that is not merely text-based or alpha-numeric-based. Furthermore, the  
applicant asserts that multiple languages is not equivalent to language-neutral, as in the  
present invention. Text is not language neutral because it exposes the end user to all the  
details, limitations, and interpretations of a given language, even if it is a different  
language than that in which the source code was written. For this reason, the graphical  
(not merely text-based) representation of the changes in the source code provided in the  
present invention overcomes the limitations of the prior art cited by the examiner,  
including the PC reference.

Also, by sharp contrast, the present invention provides for graphical representation, which the applicant asserts to mean not merely a text-based visual representation on a computer screen; the applicant further asserts that its use of graphical representation as such is what would be commonly understood by someone of ordinary skill in the art, e.g., a graphical user interface provides for a user interface having graphics that are not merely text-based visual representations on a screen.

As argued previously and restated with new emphasis in the following, the examiner's indication of page 63 as showing modifications indicated by <<<<<<<< and >>>>>>>>, is incorrect as to claim 1 of the present invention, because the PC reference clearly states on pages 63-64 that the use of <<<<<<< and >>>>>>> are indications of modifications ONLY for conflict markers and for overlapping modifications, NOT for indications of ALL modifications, as with the present invention. Also, the symbols <<<< and >>>> are not included within a graphical representation of the code, but the code itself. Rather, the examiner's combination of the conflict markers for only overlapping modifications with a graphical representation of the source code with edits does not anticipate claim 1 as it does not include every element of the claim, and it is improperly made in hindsight of the present invention as claimed in claim 1. Also, PC does not provide for a graphical representation of the code on page 11. Page 11 of the PC reference merely provides an example of a directory for a repository file, not a language-neutral, not merely text-based or alpha-numeric-based, diagrammatic representation of the source code, as in the amended independent claims of the present invention. This example was provided to show how the CVS stores data in a repository, not a representation of the code itself in a diagrammatic format.

Furthermore, the PC reference clearly states that in most cases, a user will not need to consider this information as on pages 10-11, i.e., the user will not need to view the directory and will not need to know how the CVS stores data, which teaches away from the present invention, in which the user regularly needs to consider the graphical representation of the source code in language-neutral format for the purposes of writing and editing software code more effectively and efficiently. The graphical representation of the code is not merely a user interface that is inherent in a program runnable on different platforms such as Windows, as stated by the examiner; rather, it is a specific graphic display of the source code for use by the programmer/user in reviewing code more readily than viewing the text of the code itself (which would merely be viewable on a user interface).

Thus, PC does not teach the claimed invention, which requires that the graphical representation use the indication of modifications. Nowhere does the PC reference provide this combination as claimed by the present invention in the independent claims and their respective dependent claims, as amended.

The above rejections of the claims 1-40 on the stated art grounds are traversed, and consideration of the patentability of the claims 1- 40 is requested, in light of the foregoing remarks.

Claims 1-40 are asserted to be in patentable condition. Allowance of these claims is hereby respectfully requested. In the event that the Examiner finds additional minor modifications that would place these claims in allowable condition, the Examiner is respectfully requested to make telephonic contact with the Attorney of Record to discuss

and make changes via Examiner's Amendment to place the claims in condition for allowance.

The above rejections of the claims 1-40 on the stated art and utility grounds are traversed, and consideration of the patentability of the claims 1-40 is requested, in light of the foregoing remarks. Favorable action is therefore requested.

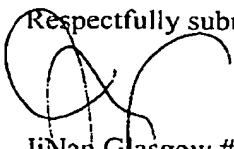
### CONCLUSION

In view of the foregoing, claims 1-40 constituting the claims pending in the application, are submitted to be fully patentably and in allowable condition to address and overcome the rejections.

If any issues remain outstanding, incident to the allowance of the application, Examiner Chuong is respectfully requested to contact the undersigned attorney at (919)-664-8222 or via email at [jnang@trianglepatents.com](mailto:jnang@trianglepatents.com) to discuss the resolution of such issues, in order that prosecution of the application may be concluded favorably to the applicant, consistent with the applicant's making of a substantial advance in the art and particularly pointing out and distinctly claiming the subject matter that the applicant regards as the invention.

This Office Action response is submitted via fax to the official group fax number at 703.872.9306 on January 24, 2004.

Respectfully submitted,



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